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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,416	11/14/2003	A. Roger Hammons JR.	021115	2289

21398 7590 01/10/2007  
DICKIE, McCAMEY, & CHILCOTE, P.C.  
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EXAMINER
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RIZK, SAMIR WADIE

ART UNIT	PAPER NUMBER
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2133

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/714,416

Applicant(s)

HAMMONS, A. ROGER

Examiner

Sam Rizk

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

- Response to the applicant's amendment dated 10/18/2006
- Claims 1-22 have been submitted for examination
- Claims 1-22 have been rejected

### ***Response to Arguments***

1. Applicant's arguments, see pages 2-5, filed on 10/18/2006, with respect to the rejection(s) of claim(s) 1-22 under 35 USC § 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Zhang et al. US publication no. 2003/017193 (Hereinafter Zhang).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang.
3. In regard to claim 1, Zhang teaches:
  - A method for encoding information symbols comprising:

- loading information symbols into a data array with  $n^{(1)}$  rows and  $n^{(2)}$  columns, wherein each column has  $k^{(1)}$  information symbols, and wherein  $k^{(1)}$  is an array that has at least two different values;

(Note: Fig. 8 reference characters (821), (841), (861) and (881) and sections [0053] and [0054] in Zhang)

- encoding each column with a code  $C^{(1)}$  from a family of nested codes  $C^{(1)}$ , wherein  $C^{(1)}$  includes two different nested codes; and encoding each row with a code  $C^{(2)}$ .

(Note: Fig. 8 reference characters (822), (842), (862) and (882) and section [0054] lines (14-15) in Zhang)

4. In regard to claim 2, Zhang teaches:

- The method of claim 1, wherein the codes in the family of codes  $C^{(1)}$  are selected from the group consisting of BCH codes, Reed-Solomon codes, and Reed-Muller codes.

(Note: section [0056], line (6) in Zhang)

5. Claims 3, 6 and 9 are rejected for the same reasons as per claim 1.

6. Claims 4, 5, 7, 8, 10, 11, 15, 16, 21 and 22 are rejected for the same reasons as per claim 2.

7. In regard to claim 12, Zhang teaches:

- An information encoder comprising:
- a first input for receiving information symbols;

(Note: 1, reference character (22) in Zhang)

Art Unit: 2133

- a second input for receiving an irregular array code;
- a processor coupled to the first and second inputs that places the information symbols in a data array and that applies the irregular array code to produce encoded information symbols; and

(Note: 1, reference character (20) in Zhang)

- an output for outputting the encoded information symbols;

(Note: 1, reference character (26) in Zhang)

- wherein the irregular array code includes a first code family C1 including nested codes  $C^{(1)}$ , wherein nested codes  $C^{(1)}$  encode the columns of the data array, and wherein the first code family C1 includes at least two different nested codes and a second code C2 including a single code  $C^{(2)}$ , wherein code  $C^{(2)}$  encodes the rows of the data array.

(Note: Fig. 8 reference characters (822), (842), (862) and (882) and section [0054] lines (14-15) in Zhang)

8. In regard to claim 13, Zhang teaches:

- The information encoder of claim 12, wherein the encoder is implemented on an integrated circuit.

(note: Fig. 10, reference character (144) and section [0084] line (18) in Zhang)

9. In regard to claim 14, Zhang teaches:

- The information encoder of claim 13, wherein the encoder is implemented on a general purpose computer.

(Note: Fig. 10, reference character (144) in Zhang)

10. In regard to claim 17, Zhang teaches:

- A communication system comprising:

(Note: Fig. 1 in Zhang)

- a forward error correction encoder with an input receiving information symbols and an output producing encoded data, wherein the forward error correction encoder:

(Note: Fig. 10, reference character (24) in Zhang)

- loads information symbols into a data array with  $n^{(1)}$  rows and  $n^{(2)}$  columns, wherein each column has  $k^{(1)}$  information symbols, and wherein  $k^{(1)}$  is an array that has at least two different values;

(Note: Fig. 8 reference characters (821), (841), (861) and (881) and sections [0053] and [0054] in Zhang)

- encodes each column with a code  $C^{(1)}$  from a family of nested codes  $C^{(1)}$ , wherein  $C^{(1)}$  includes two different nested codes; and encoding each row with a code  $C^{(2)}$ .

(Note: Fig. 8 reference characters (822), (842), (862) and (882) and section [0054] lines (14-15) in Zhang)

- a communication medium;

(Note: Fig. 1, reference character (28) in Zhang)

Art Unit: 2133

- a transmitter with an input connected to the output of the forward error correction encoder and an output connected to the communication medium, wherein the transmitter transmits the encoded data through the communication medium;

(Note: Fig. 1, reference character (20) in Zhang)

- a receiver with an input connected to the communication medium and an output, wherein the receiver receives the encoded data from the communication medium; and

(Note: Fig. 1, reference character (40) in Zhang)

- a forward error correction decoder with an input connected to the output of the receiver, wherein the decoder decodes the encoded data into information symbols.

(Note: Fig. 1, reference character (44) in Zhang)

11. In regard to claim 18, Zhang teaches:

- The communication system of claim 17, wherein the forward error correction encoder is part of the transmitter.

(Note: Fig. 1, reference character (24) in Zhang)

12. In regard to claim 19, Zhang teaches:

- The communication system of claim 17, wherein the forward error correction decoder is part of the receiver.

(Note: Fig. 1, reference character (44) in Zhang)

13. In regard to claim 20, Zhang teaches:

Art Unit: 2133

- The communication system of claim 17 where in the communication medium is selected from the group consisting of an electrical medium, an optical medium, a storage medium, or a free space medium.

(Note: Fig. 1, reference character (28) in Zhang)

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

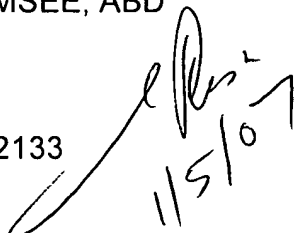
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

ART UNIT 2133



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